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New Coleoptera records from New Brunswick, Canada: Elateridae

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Abstract

Twenty-two species of Elateridae are newly reported for New Brunswick, Canada. *Negastrius exiguus* (Randall) is removed from the faunal list and *Agriotes pubescens* Melsheimer is re-instated as a member of the New Brunswick fauna. *Agriotes pubescens* Melsheimer, *Dalopius brevicornis* W. J. Brown, *Danosoma obtectum* (Say) and *Megapenthes solitarius* Fall are newly reported for the Maritime provinces. Collection data, bionomic data, and distribution maps are presented for all these species.

Keywords

Elateridae, new records, Canada, New Brunswick

Introduction

The Elateridae (click beetles) is a species-rich family of beetles with about 965 named species in North America (Johnson 2002) and 369 species and subspecies from Canada and Alaska (Bousquet 1991). Although some groups are fairly well known taxonomically, genera such as *Ampedus* and *Dalopius* are in need of revisionary study and include a number of undescribed species (Johnson 2002). Larvae of some species of Elateridae are rhizophagus and are important agricultural pests; larvae of other species are predaceous, often living in soil, subcortical habitats, or rotten logs (Johnson 2002). However, little is known about the biology of most species.

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The Elateridae of the Maritime provinces (New Brunswick, Nova Scotia, Prince Edward Island) was reviewed by Majka and Johnson (2008). They provided a detailed historical overview the collection of the Elateridae and other families of beetles in the Maritime provinces and a taxonomic review of the genus *Ctenicera*, which was in need of taxonomic review and generic re-assignment. Ninety-eight species were reported for New Brunswick, 13 as new provincial records; *Agriotes pubescens* Melsheimer, *Athous campyloides* Newman, and *Cardiophorus cardisce* (Say) were removed from the faunal list of the province by Majka and Johnson (2008). Later, Douglas (2011) newly reported *Pseudanstirus nigricollis* (Bland) and the adventive *Hemicrepidius niger* (Linnaeus) from New Brunswick. *Hemicrepidius niger* was also reported from Ontario and these represented the first records of this Eurasian species from North America. Here, we newly report 22 elaterid species from New Brunswick.

Methods and conventions

The following records are based on specimens collected during a general survey by the first author to document the Coleoptera fauna of New Brunswick and from by-catch samples obtained during a study to develop a general attractant for the detection of invasive species of Cerambycidae. Additional provincial records were obtained from specimens contained in the collection belonging to Natural Resources Canada, Canadian Forest Service - Atlantic Forestry Centre, Fredericton, New Brunswick.

Collection methods

Various methods were employed to collect the species reported in this study. Details are outlined in Webster et al. (2009, Appendix). Many specimens were also collected from 12-unit Lindgren funnel traps set in various forest habitats in New Brunswick between 2008 and 2011. These traps mimic tree trunks and are often effective for sampling species of Coleoptera that live in microhabitats associated with standing trees (Lindgren 1983). See Webster et al. (in press) for details of the methods used to deploy Lindgren funnel traps and for sample collection. A description of the habitat was recorded for all specimens collected during this survey. Locality and habitat data are presented exactly as on labels for each record. This information, as well as additional collecting notes, is summarized and discussed in the collection and habitat data section for each species.

Specimen Preparation

Males of some species of Elateridae were dissected to confirm their identity. The genital structures were dehydrated in absolute alcohol and mounted in Canada balsam on celluloid microslides and pinned with the specimens they originated from.

Distribution

Distribution maps, created using ArcMap and ArcGIS, are presented for each species in New Brunswick. Every species is cited with current distribution in Canada and Alaska, using abbreviations for the state, provinces, and territories. New records for New Brunswick are indicated in bold under Distribution in Canada and Alaska. The following abbreviations are used in the text:

AK	Alaska	**MB**	Manitoba
YT	Yukon Territory	**ON**	Ontario
NT	Northwest Territories	**QC**	Quebec
NU	Nunavut	**NB**	New Brunswick
BC	British Columbia	**PE**	Prince Edward Island
AB	Alberta	**NS**	Nova Scotia
SK	Saskatchewan	**NF & LB**	Newfoundland and Labrador

Acronyms of collections examined or where specimens reside referred to in this study are as follows:

AFC Atlantic Forestry Centre, Natural Resources Canada, Canadian Forest Service, Fredericton, New Brunswick, Canada
CNC Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada
NBM New Brunswick Museum, Saint John, New Brunswick, Canada
RWC Reginald Webster Collection, Charters Settlement, New Brunswick, Canada

Results

Twenty-two species of Elateridae are newly reported for New Brunswick, *Negastrius exiguus* (Randall) is removed from the faunal list, and *Agriotes pubescens* Melsheimer reinstated as a member of the New Brunswick fauna, bringing the total number of species known from the province to 122. *Agriotes pubescens* Melsheimer, *Dalopius brevicornis*, *Danosoma obtectum* (Say), and *Megapenthes solitarius* Fall are newly reported for the Maritime provinces. Several apparently undescribed *Ampedus* sp. have also been found in New Brunswick but these are not reported here.

Species accounts

All records below are species newly recorded for New Brunswick, Canada unless noted otherwise (additional records). Species followed by ** are newly recorded from the Maritime provinces of Canada.

The classification of the Elateridae follows Bouchard et al. (2011).

Table 1. Species of Elateridae recorded from New Brunswick, Canada.

Family Elateridae Leach
Subfamily Agrypninae Candèze
Tribe Agrypnini Candèze
Danosoma brevicornis (LeConte)
Danosoma obtectum (Say)**
Lacon auroratus (Say)
Subfamily Lissominae Laporte
Oestodes tenuicollis (Randall)
Subfamily Pityobiinae Hyslop
Pityobius anguinius LeConte
Subfamily Dendrometrinae Gistel
Tribe Dendrometrini Gistel
Athous acanthus (Say)
Athous brightwelli (Kirby)
Athous fossularis (LeConte)
Athous orvus Becker
Athous posticus (Melsheimer)*
Athous productus (Randall)
Athous rufifrons (Randall)
Athous scapularis (Say)*
Denticollis denticornis (Kirby)
Elathous discalceatus (Say)*
Hemicrepidius brevicollis (Candèze)
Hemicrepidius hemipodus (Say)
Hemicrepidius memnonius (Herbst)*
Hemicrepidius niger (Linnaeus)
Limonius aeger LeConte
Limonius anceps LeConte
Limonius confusus LeConte
Limonius pectoralis LeConte
Tribe Prosternini Gistel
Actenicerus cuprascens (LeConte)
Anostirus vernalis (Hentz)
Beckerus appressus (Randall)
Corymbitodes elongaticollis (Hamilton)
Corymbitodes pygmaeus (Van Dyke)
Corymbitodes tarsalis (Melsheimer)
Ctenicera kendalli (Kirby)
Eanus estriatus (LeConte)
Eanus maculipennis LeConte
Hypoganus sulcicollis (Say)*
Hypoganus rotundicollis (Say)**
Liotrichus falsificus (LeConte)
Liotrichus spinosus (LeConte)
Liotrichus vulneratus (LeConte)
Metanomus insidiosus (LeConte)
Nitidolimonius resplendens (Eschscholtz)
Oxygonus montanus Schaeffer
Oxygonus obesus Say**
Paractenicera fulvipes (Bland)
Prosternon medianum (Germar)
Pseudanostirus hamatus (Say)
Pseudanostirus hieroglyphicus (Say)
Pseudanostirus nigricollis (Bland)
Pseudanostirus propolus (LeConte)
Pseudanostirus triundulatus (Randall)
Selatosomus appropinquans (Randall)
Selatosomus pulcher (LeConte)
Selatosomus splendens (Ziegler)
Setasomus atratus (LeConte)
Setasomus nitidulus (LeConte)
Setasomus rufopleuralis (Fall)
Sylvanelater cylindriformis (Herbst)
Tribe Hypnoidini Schwarz
Hypnoidus abbreviatus (Say)
Hypnoidus bicolor (Eschscholtz)
Ligmargus lecontei (Leng)*
Margaiostus grandicollis (LeConte)
Subfamily Negastriinae Nakane & Kishii
Microhypnus striatulus (LeConte)
Negastrius arnetti Stibick
Negastrius delumbis (Horn)
Negastrius atrosus Wells**
Neohypdonus tumescens (LeConte)
Oedostethus femoralis LeConte
Paradonus olivereae Stibick
Paradonus pectoralis (Say)*
Zorochrus melsheimeri (Horn)
Subfamily Elaterinae Leach
Tribe Agriotini Laporte
Agriotes collaris (LeConte)
Agriotes fuscosus (LeConte)
Agriotes limosus (LeConte)
Agriotes mancus (Say)
Agriotes quebecensis Brown*
Agriotes sputator (Linnaeus)
Agriotes pubescens Melsheimer*
Agriotes stabilis (LeConte)
Dalopius cognatus Brown
Dalopius fuscipes Brown

Dalopius pallidus Brown
Dalopius vagus Brown
Dalopius brevicornis Brown**
Tribe Ampedini Gistel
Ampedus apicatus (Say)
Ampedus areolatus (Say)*
Ampedus collaris (Say)
Ampedus deletus (LeConte)
Ampedus evansi Brown
Ampedus fusculus (LeConte)
Ampedus laurentinus Brown
Ampedus luctuosus (LeConte)
Ampedus minipennis (LeConte)
Ampedus mixtus (Herbst)
Ampedus molestus (LeConte)
Ampedus nigricans (Germar)
Ampedus nigricollis (Herbst)*
Ampedus nigrinus (Herbst)
Ampedus oblessus (Say)
Ampedus protervus (LeConte)*
Ampedus pullus Germar
Ampedus rubricus (Say)
Ampedus sanguinipennis (Say)
Ampedus sayi (LeConte)
Ampedus semicinctus (Randall)
Ampedus subtilis (LeConte)
Ampedus vitiosus (LeConte)
Tribe Elaterini Leach
Elater abruptus Say*
Sericus honestus (Randall)
Sericus incongruus (LeConte)
Sericus viridanus (Say)*
Tribe Megapenthini Gurjeva
Megapenthes rogersi Horn
Megapenthes stigmosus (LeConte)
Megapenthes solitarius Fall**
Tribe Melontini Candèze
Melanotus castanipes (Paykull)
Melanotus decumanus (Erichson)
Melanotus leonardi (LeConte)**
Melanotus similis (Kirby)
Melanotus sagittarus (LeConte)**
Tribe Pomachiliini Candèze
Agriotella bigeminata (Randall)
Agriotella debilis (LeConte)
Subfamily Cardiophorinae Candèze
Cardiophorus convexulus LeConte
Cardiophorus gagates Erichson
Cardiophorus propinquus Lanchester

Notes: *New to province, **New to Maritime provinces.

Family Elateridae Leach, 1815
Subfamily Agrypninae Candèze, 1857
Tribe Agrypnini Candèze, 1857

Danosoma obtectum (Say, 1839)**

http://species-id.net/wiki/Danosoma_obtectum

Map 1

Material examined. New Brunswick, York Co., 14 km WSW of Tracy, S of Rt. 645, 45.6741°N, 66.8661°W, 13–27.VII.2010, R. Webster & C. MacKay, old mixed forest with red and white spruce, red and white pine, balsam fir, eastern white cedar, red maple, and *Populus* sp., Lindgren funnel trap (1, RWC).

Collection and habitat data. The single specimen from New Brunswick was captured during July in a Lindgren funnel trap deployed in an old mixed forest.

Distribution in Canada and Alaska. YK, NT, BC, AB, SK, MB, ON, PQ, **NB** (Bousquet 1991). Majka and Johnson (2008) removed *Danosoma obtectum* from the faunal list of Nova Scotia due to a lack of a supporting voucher specimen.

Subfamily Dendrometrinae Gistel, 1848
Tribe Dendrometrini Gistel, 1848

Athous posticus (Melsheimer, 1846)

http://species-id.net/wiki/Athous_posticus

Map 2

Material examined. New Brunswick, Carleton Co., Meduxnekeag Valley Nature Preserve, 46.1957°N, 67.6803°W, 22.VII.2004, J. Edsall & R. P. Webster, mixed forest, u.v. light (1, RWC); Jackson Falls, Bell Forest, 46.2200°N, 67.7231°W, 5–12.VII.2008, 19–28.VII.2008, R. P. Webster, mature hardwood forest, Lindgren funnel traps (5, AFC, RWC). **Queens Co.**, Cranberry Lake P.N.A. (Protected Natural Area), 46.1125°N, 65.6075°W, 1–10.VII.2009, 15–21.VII.2009, 21–28.VII.2009, R. Webster & M.-A. Giguère, old red oak forest, Lindgren funnel traps (5, AFC); same locality data and forest type, 20.VII-4.VIII.2011, M. Roy & V. Webster, Lindgren funnel traps in forest canopy (3, NBM, RWC). **York Co.**, 15 km W of Tracy off Rt. 645, 45.6848°N, 66.8821°W, 14–20.VII.2009, R. Webster & M.-A. Giguère, old red pine forest, Lindgren funnel trap (1, RWC); same locality and habitat data but 30.VI–13.VII.2010, R. Webster & K. Burgess, Lindgren funnel trap (1, RWC); 14 km WSW of Tracy, S of Rt. 645, 45.6741°N, 66.8661°W, 16–30.VI.2010, 30.VI–13.VII.2010, R. Webster, C. MacKay, & K. Burgess, old mixed forest with red and white spruce, red and white pine, balsam fir, eastern white cedar, red maple, and *Populus* sp., Lindgren funnel traps (3, AFC, RWC).

Collection and habitat data. One adult was collected at an ultraviolet light, but most individuals were captured in Lindgren funnel traps in mixed and old mixed forests, a mature hardwood forest, an old red oak (*Quercus rubra* L.) forest, and an old red pine (*Pinus resinosa* Ait.) forest. Adults were collected during June, July, and August.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991; Majka and Johnson 2008).

Athous scapularis (Say, 1839)

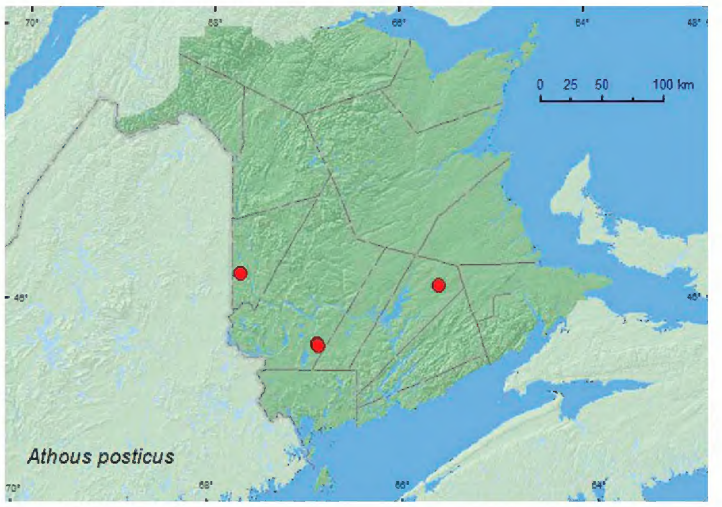
http://species-id.net/wiki/Athous_scapularis

Map 3

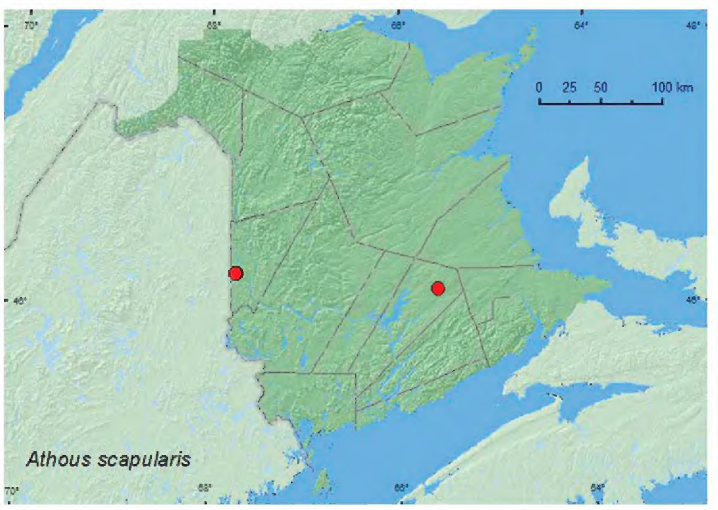
Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2208°N, 67.7211°W, 28.VI.2005, R. P. Webster, mature hardwood forest, u.v. light (1, RWC); same locality but 46.2200°N, 67.7231°W, 5–12.VII.2008, R. P. Webster, mature hardwood forest, Lindgren funnel trap (1, RWC). **Queens Co.**, Cranberry Lake P.N.A., 46.1125°N, 65.6075°W, 18–31.VIII.2011, M. Roy & V. Webster, old red oak forest, Lindgren funnel trap (1, AFC).

Collection and habitat data. Adults of this species were found in a mature hardwood forest with American beech (*Fagus grandifolia* Ehrh.), sugar maple (*Acer saccharum* Marsh.), and white ash (*Fraxinus americana* L.) and in an old red oak forest.

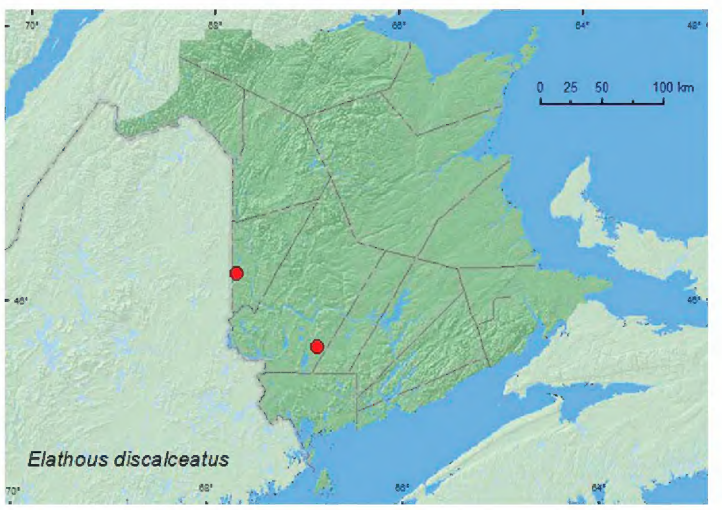
Map 1. Collection localities in New Brunswick, Canada of *Danosoma obtectum.*



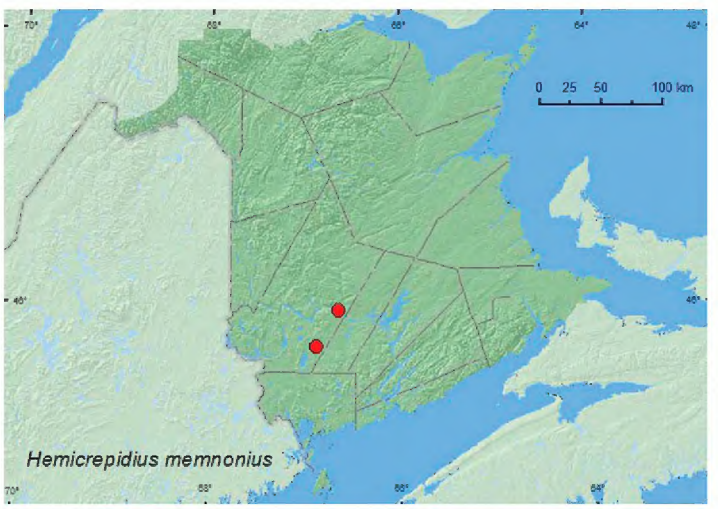
Map 2. Collection localities in New Brunswick, Canada of *Athous posticus.*



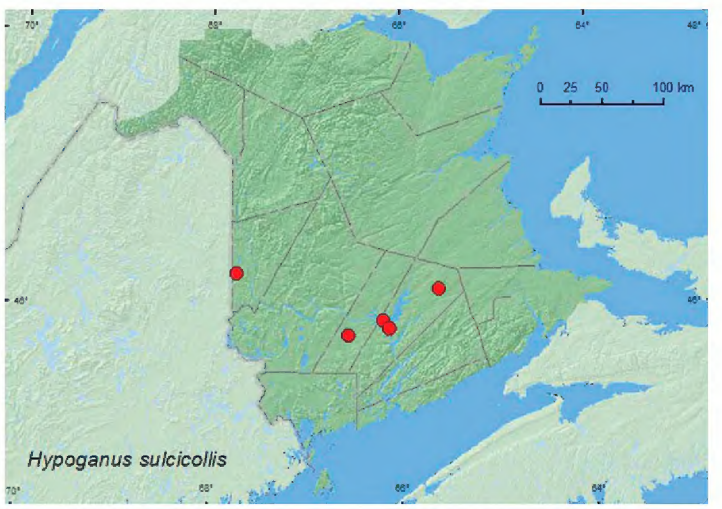
Map 3. Collection localities in New Brunswick, Canada of *Athous scapularis.*



Map 4. Collection localities in New Brunswick, Canada of *Elathous discalceatus.*



Map 5. Collection localities in New Brunswick, Canada of *Hemicrepidius memnonius.*



Map 6. Collection localities in New Brunswick, Canada of *Hypoganus sulcicollis.*

Adults were captured at an ultraviolet light and in Lindgren funnel traps. This species was captured during June, July, and August. Becker (1974) reported larvae of this species from forest litter and decaying logs.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991; Majka and Johnson 2008).

***Elathous discalceatus* (Say, 1839)**
http://species-id.net/wiki/Elathous_discalceatus
Map 4

Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2200°N, 67.7231°W, 19–28.VII.2008, R. P. Webster, mature hardwood forest, Lindgren funnel trap (1, RWC). **York Co.**, 15 km W of Tracy off Rt. 645, 45.6848°N, 66.8821°W, 4–11.VIII.2009, R. Webster & M.-A. Giguère, old red pine forest, Lindgren funnel trap (1, RWC); same locality data, 27.VII–10.VIII.2010, R. Webster & C. Hughes, Lindgren funnel traps (3, AFC, RWC).

Collection and habitat data. Adults were captured during late July and August in Lindgren funnel traps in a mature hardwood forest with American beech, sugar maple, and white ash, and in an old red pine forest.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991).

***Hemicrepidius memnonius* (Herbst, 1806)**
http://species-id.net/wiki/Hemicrepidius_memnonius
Map 5

Material examined. New Brunswick, York Co., Fredericton, 27.VII.1929, R. P. Gorham, (2, AFC); Charters Settlement, 45.8395°N, 66.7391°W, 1.VIII.2007, R. P. Webster, mixed forest, u.v. light (1, RWC); 15 km W of Tracy off Rt. 645, 45.6848°N, 66.8821°W, 20–29.VII.2009, 29.VII-4.VIII.2009, 11–18.VIII.2009, R. Webster & M.-A. Giguère, old red pine forest, Lindgren funnel traps (8, AFC, RWC); same locality data but 13–27.VII.2010, R. Webster & C. MacKay, Lindgren funnel traps (2, AFC, RWC).

Collection and habitat data. *Hemicrepidius memnonius* was collected at an ultraviolet light in a mixed forest and from Lindgren funnel traps in an old red pine forest. Adults were captured during July and August.

Distribution in Canada and Alaska. AB, SK, MB, ON, QC, **NB**, NS, PE (Bousquet 1991).

Tribe Prosternini Gistel, 1856

***Hypoganus sulcicollis* (Say, 1834)**
http://species-id.net/wiki/Hypoganus_sulcicollis
Map 6

Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2199°N, 67.7231°W, 9.IX.2006, 6.V.2007, R. P. Webster, mature hardwood forest, under bark of fallen beech logs (2, RWC); same locality but 20–26.V.2009, R. Webster & M.-A. Giguère, mature hardwood forest, Lindgren funnel trap (1, RWC).

Queens Co., Grand Lake near Scotchtown, 45.8762°N, 66.1816°W, 25.IV.2004, R. Webster & M.-A. Giguère, oak and maple forest, under bark of oak (1, RWC); Cranberry Lake P.N.A., 46.1125°N, 65.6075°W, 21–27.V.2009, 10–15.VII.2009, R. Webster & M.-A. Giguère, old red oak forest, Lindgren funnel traps (2, RWC); Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 3–21.VI.2011, 21.VI–5.VII.2011, 5–19.VII.2011, 5–17.VIII,2011, M. Roy & V. Webster, old silver maple forest with green ash and seasonally flooded marsh, Lindgren funnel traps in forest canopy (4, NBM, RWC). **Sunbury Co.**, Burton near Sunpoke Lake, 45.7663°N, 66.5550°W, 20.VII.2006, R. P. Webster, oak forest, under loose bark of red oak (1, RWC).

Collection and habitat data. *Hypoganus sulcicollis* (Say) was collected in a mature hardwood forest with American beech, sugar maple, and white ash, in a red oak and red maple (*Acer rubrum* L.) forest, an old silver maple (*Acer saccharinum* L.) forest, and in an old red oak forest. Adults were collected from under bark of fallen American beech, under bark of red oak, and from Lindgren funnel traps. Adults were captured during April, May, June, July, August, and September.

Distribution in Canada and Alaska. MB, ON, QC, **NB**, NS (Bousquet 1991; Majka and Johnson 2008).

Hypoganus rotundicollis* (Say, 1825)*
http://species-id.net/wiki/Hypoganus_rotundicollis
Map 7

Material examined. New Brunswick, Queens Co., near "Trout Creek", 45.8237°N, 66.1225°W, 6.IX.2007, R. P. Webster, silver maple swamp, sweeping foliage on margin of marsh (1, RWC).

Collection and habitat data. The sole New Brunswick specimen of this species was collected during September by sweeping marsh vegetation on the margin of a silver maple swamp.

Distribution in Canada and Alaska. ON, **NB** (Bousquet 1991).

Oxygonus obesus* (Say, 1823)*
http://species-id.net/wiki/Oxygonus_obesus
Map 8

Material examined. New Brunswick, York Co., Canterbury, Browns Mountain Fen, 45.8967°N, 67.6343°W, 1.VI.2005, R. Webster & M.-A. Giguère, calcareous fen with shrubby cinquefoil, sweeping (2, RWC).

Collection and habitat data. Specimens of this species were swept from vegetation in an open calcareous cedar fen with shrubby cinquefoil (*Pentaphylloides floribunda* (Pursh) A. Löve) during early June.

Distribution in Canada and Alaska. AB, MB, ON, QC, **NB** (Bousquet 1991).

Tribe Hypnoidini Schwarz, 1906 (1860)

Ligmargus lecontei (Leng, 1918)

http://species-id.net/wiki/Ligmargus_lecontei
Map 9

Material examined. New Brunswick, Restigouche Co., Jacquet River Gorge P.N.A. near Jacquet R., 47.8897°N, 66.0835°W, 23.VI.2008, 26.VI.2008, R. P. Webster, river margin, among cobblestones (2, RWC); same locality but 47.8204°N, 66.0833°W, 14.VI.2009, R. P. Webster, river margin, among cobblestones (1, RWC); same locality but 47.8357°N, 66.0779°W, 14.V.2010, 24.V.2010, R. P. Webster, partially shaded gravel bar near confluence of brook and river, among cobblestones (2, RWC).

Collection and habitat data. *Ligmargus lecontei* adults were collected from under cobblestones along the margin of a fast-flowing, clear (cool water), rocky, river during May and June.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991).

Subfamily Negastriinae Nakane and Kishii, 1956

Negastrius exiguus (Randall, 1838)

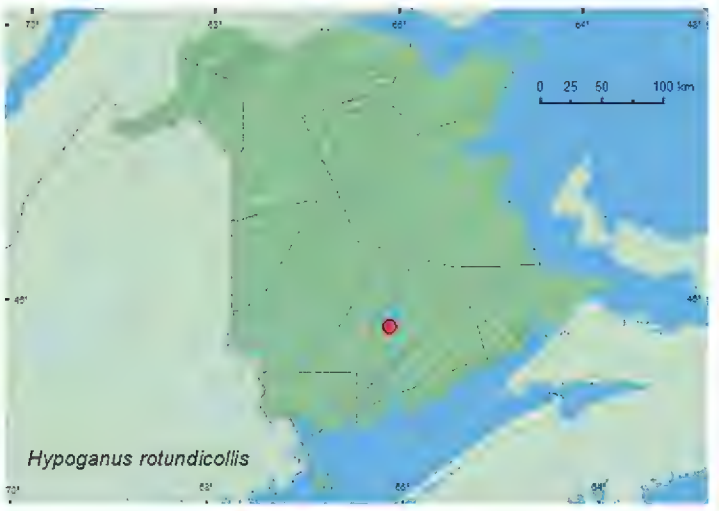
The record of *N. exiguus* in Majka and Johnson (2008) was based on a misidentification by C.G. Majka and was *N. atrosus* Wells (determined by Serge Laplante). In view of this, *N. exiguus* is removed from the faunal list of New Brunswick.

Negastrius atrosus Wells, 1996**

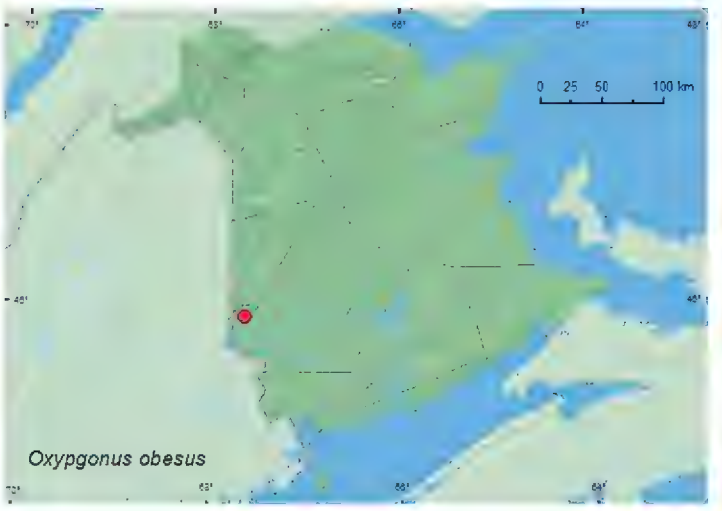
http://species-id.net/wiki/Negastrius_atrosus
Map 10

Material examined. New Brunswick, Queens Co., Bayard, at Nerepis River, 45.4426°N, 66.3280°W, 30.V.2008, R. P. Webster, river margin, under small rocks embedded in gravel (2, RWC). **Restigouche Co.**, confluence of Restigouche River and Stillwater Brook, 26.VI.2000, R. Webster, F. Roy, & P. Poitras, in gravel on river margin (1, RWC). **York Co.**, Rt. 105 at Nashwaaksis River, 45.9853°N, 66.6910°W, 9.V.2006, R. P. Webster, river margin, splashing water onto sand bar (2, RWC); 1.5 km S of Taymouth at the Nashwaak River, 46.1582°N, 66.6134°W, 15.VI.2008, R. P. Webster, on sand bar under drift material on sand (5, RWC).

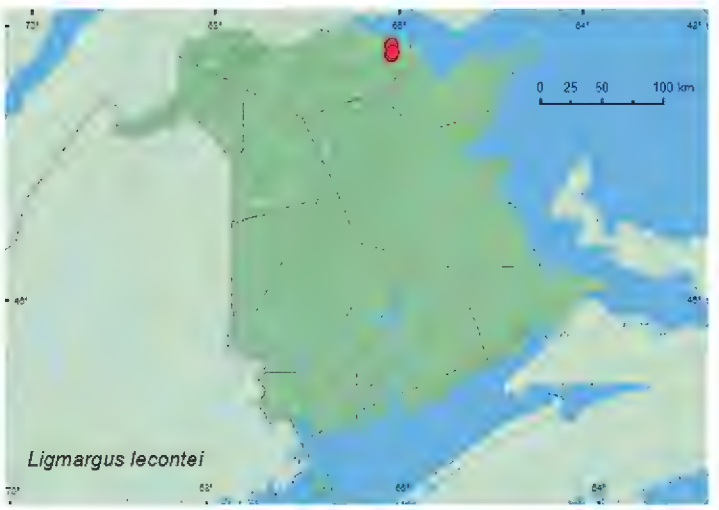
Collection and habitat data. *Negastrius atrosus* adults were collected along river margins from under small rocks, in gravel, and under drift material on sand bars. Two adults were collected by splashing water onto sand on a sand bar. Adults were collected



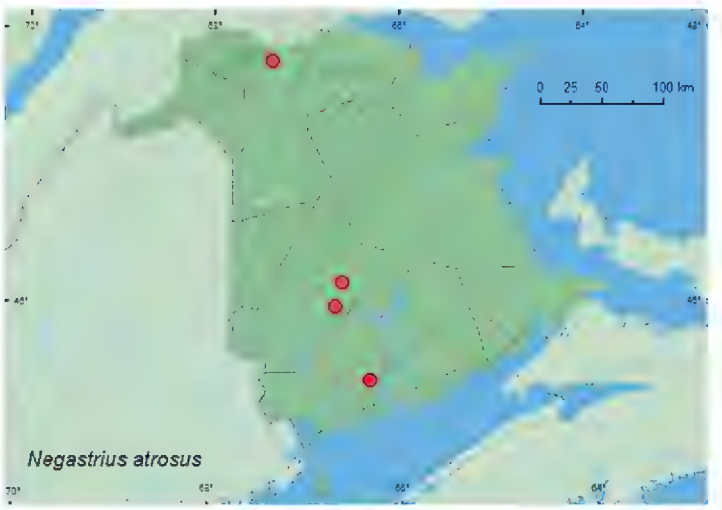
Map 7. Collection localities in New Brunswick, Canada of *Hypoganus rotundicollis.*



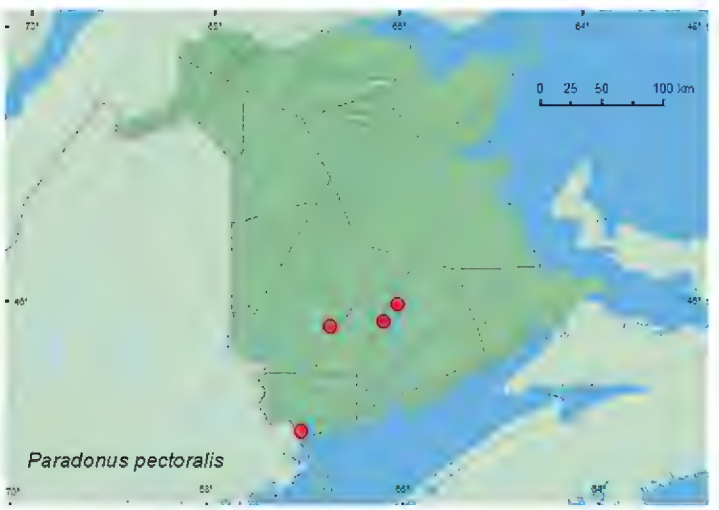
Map 8. Collection localities in New Brunswick, Canada of *Oxygonus obesus.*



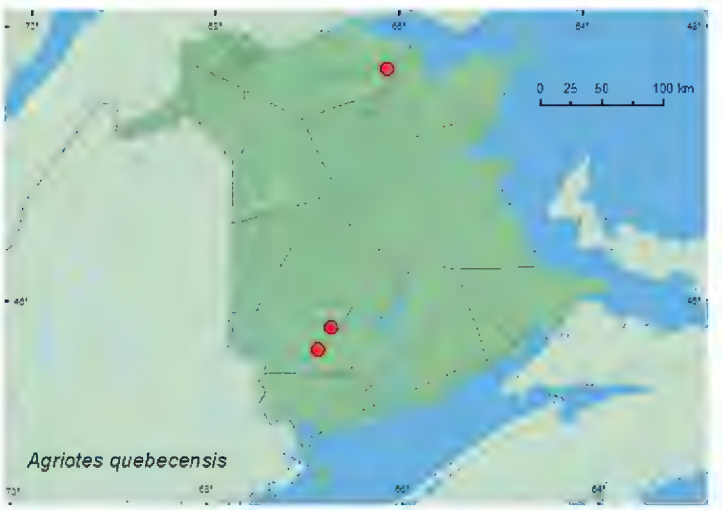
Map 9. Collection localities in New Brunswick, Canada of *Ligmargus lecontei.*



Map 10. Collection localities in New Brunswick, Canada of *Negastrius atrosus.*



Map 11. Collection localities in New Brunswick, Canada of *Paradonus pectoralis.*



Map 12. Collection localities in New Brunswick, Canada of *Agriotes quebecensis.*

during May and June. No details on the habitat requirements of this species were given in Wells (1996). Wells (1996) reported that other species of *Negastrius* were associated with riparian habitats and inhabit sandy–to–rocky stream and river margins.

Distribution in Canada and Alaska. ON, QC, **NB** (Wells 1996).

***Paradonus pectoralis* (Say, 1839)**
http://species-id.net/wiki/Paradonus_pectoralis
Map 11

Material examined. New Brunswick, Charlotte Co., St. Andrews, 45.0751°N, 67.0374°W, 25.VIII.2006, R. P. Webster, sea beach, sweeping foliage (1, RWC). **Queens Co.**, Grand Lake near Scotchtown, 45.8762°N, 66.1816°W, 5.VI.2004, R. P. Webster, in gravel near shoreline of lake (2, RWC); Grand Lake at Stony Point, 46.0031°N, 66.0337°W, 17.VIII.2004, D. Sabine & R. Webster, lakeshore, cobblestone beach, among cobblestones (3, RWC). **York Co.**, Charters Settlement, 45.8395°N, 66.7391°W, 19.VII.2005, 9.VII.2006, 17.VII.2008, R. P. Webster, mixed forest, u.v. light (3, RWC).

Collection and habitat data. Adults of this species were collected in gravel and among cobblestones along lakeshores, by sweeping foliage on a sea beach, and at an ultraviolet light in a mixed forest. Adults were collected during June, July, and August.

Distribution in Canada and Alaska. BC, AB, SK, MB, ON, QC, **NB**, NS (Bousquet 1991).

Subfamily Elaterinae Leach, 1815

Tribe Agriotini Laporte, 1840

***Agriotes quebecensis* Brown, 1933**
http://species-id.net/wiki/Agriotes_quebecensis
Map 12

Material examined. New Brunswick, Restigouche Co., Jacquet River Gorge P.N.A., 47.7235°N, 66.1278°W, 16.VI.2009, K. A. A. Vandenbroeck (1, NBM). **York Co.**, Charters Settlement, 45.8380°N, 66.7310°W, 14.V.2004, R. P. Webster, beating foliage (1, RWC); 14 km WSW of Tracy, S of Rt. 645, 45.6741°N, 66.8661°W, 17–31.V.2010, R. Webster & C. MacKay, old mixed forest with red and white spruce, red and white pine, balsam fir, eastern white cedar, red maple, and *Populus* sp., Lindgren funnel trap (1, AFC).

Collection and habitat data. One individual was beaten from foliage in a mixed forest, another was captured in a Lindgren funnel trap deployed in an old mixed forest. Adults were captured during May and June.

Distribution in Canada and Alaska. MB, ON, QC, **NB**, PE, NS (Bousquet 1991; Majka and Johnson 2008).

***Agriotes pubescens* Melsheimer, 1845**
http://species-id.net/wiki/Agriotes_pubescens
Map 13

Material examined. New Brunswick, Queens Co., Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 31.V–15.VI.2010, 15–29.VI.2010, R. Webster & C. MacKay, old silver maple forest with green ash and seasonally flooded marsh, Lindgren funnel traps (5, AFC, RWC). **Sunbury Co.**, Burton near Sunpoke Lake, 45.7658°N, 66.5546°W, 20.VI.2007, R. P. Webster, red oak and red maple forest, on foliage of *Quercus rubra* (1, RWC).

Collection and habitat data. Adults were collected during June from Lindgren funnel traps in an old silver maple forest (swamp) and from foliage of red oak in a red oak and red maple stand. Both forest sites were near seasonally flooded marshes.

Distribution in Canada and Alaska. MB, ON, QC, **NB** (Bousquet 1991). Bousquet (1991) reported *Agriotes pubescens* Melsheimer from New Brunswick. Majka and Johnson (2008) were unable to locate voucher specimens to support the record and, thus, they removed it from the faunal list of New Brunswick. The records above establish the presence of this species in the province.

Dalopius brevicornis* Brown, 1934*
http://species-id.net/wiki/Dalopius_brevicornis
Map 14

Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2152°N, 67.7190°W, 1.VI.2005, M.-A. Giguère & R. P. Webster, upper river margin near floodplain forest, sweeping foliage (4, RWC); Meduxnekeag Valley Nature Preserve, 46.1931°N, 67.6825°W, 8. VI.2005, M.-A. Giguère & R. P. Webster, margin of floodplain forest with butternut, sweeping (3, RWC).

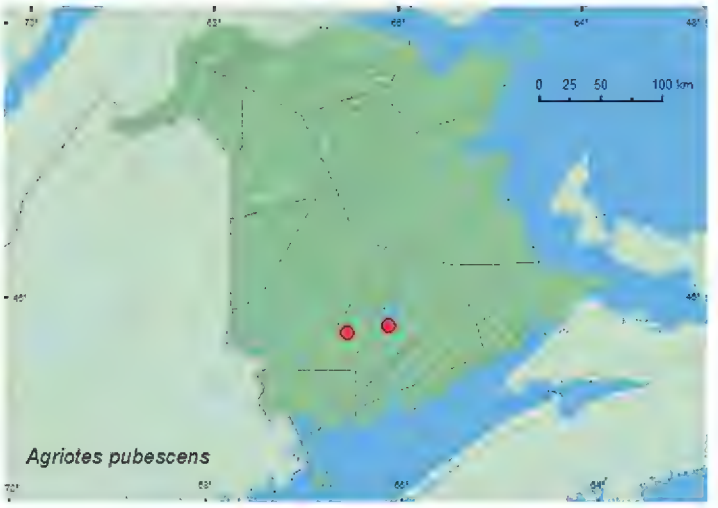
Collection and habitat data. Adults were collected during early June by sweeping foliage near floodplain forests adjacent to rivers.

Distribution in Canada and Alaska. ON, QC, **NB** (Bousquet 1991).

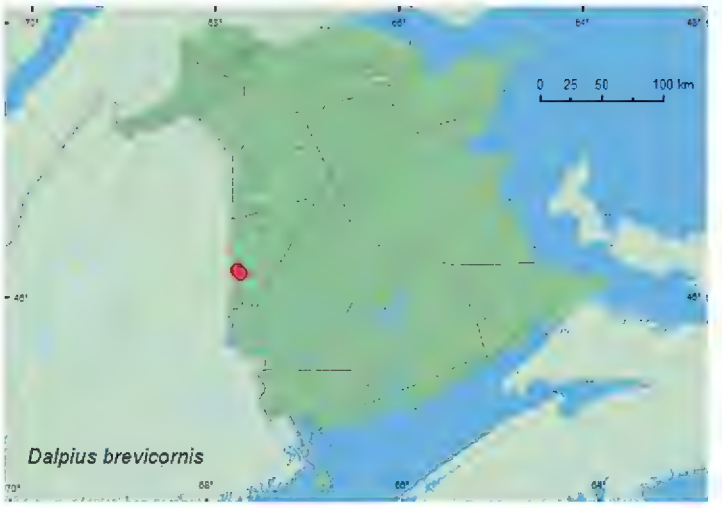
Tribe Ampedini Gistel, 1848

***Ampedus areolatus* (Say, 1823)**
http://species-id.net/wiki/Ampedus_areolatus
Map 15

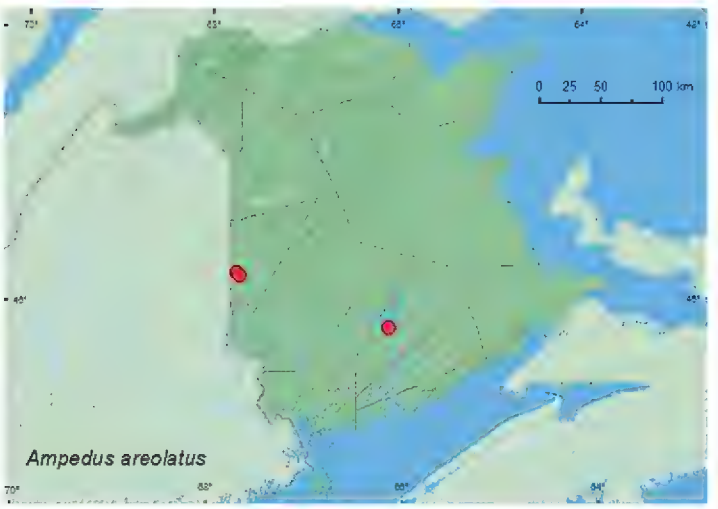
Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2152°N, 67.7190°W, 12.VI.2008, R. P. Webster, river margin, treading vegetation in seepage area (1, RWC); Meduxnekeag Valley Nature Preserve, 46.1931°N,



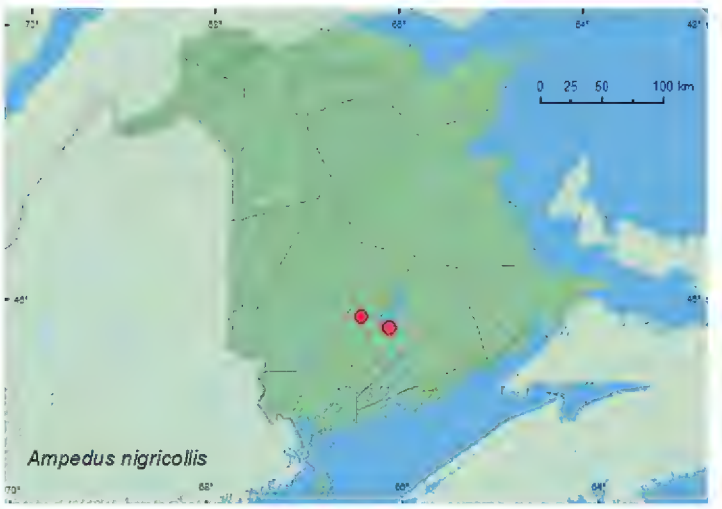
Map 13. Collection localities in New Brunswick, Canada of *Agriotes pubescens.*



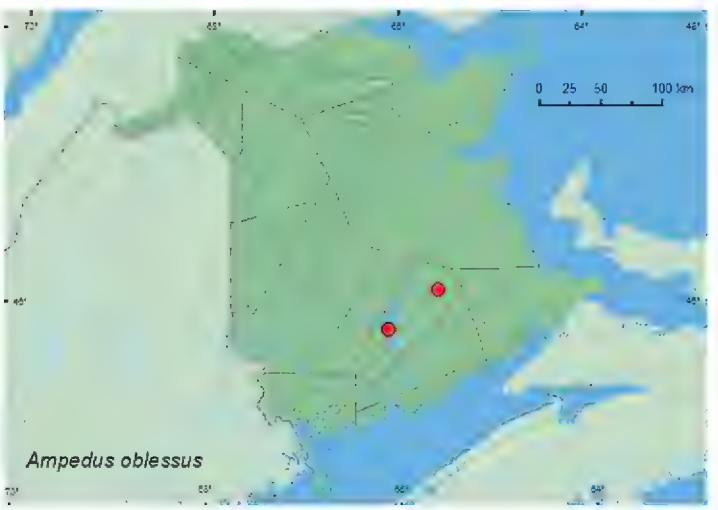
Map 14. Collection localities in New Brunswick, Canada of *Dalopius brevicornis.*



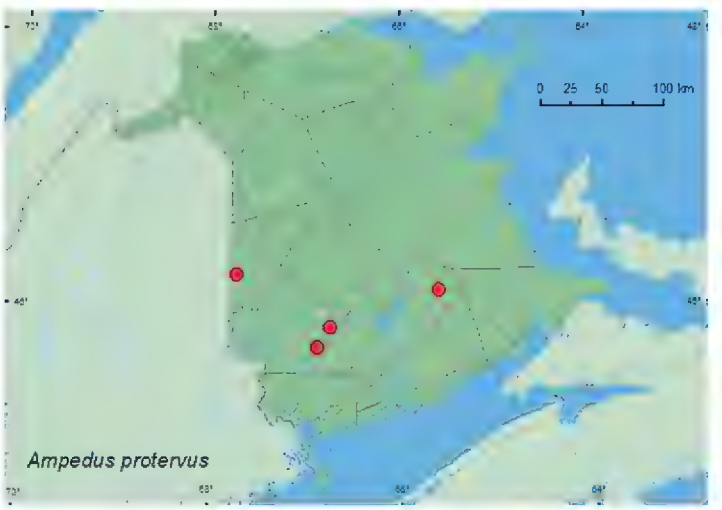
Map 15. Collection localities in New Brunswick, Canada of *Ampedus areolatus.*



Map 16. Collection localities in New Brunswick, Canada of *Ampedus nigricollis.*



Map 17. Collection localities in New Brunswick, Canada of *Ampedus oblessus.*



Map 18. Collection localities in New Brunswick, Canada of *Ampedus protervus.*

67.6825°W, 8.VI.2005, M.-A. Giguère & R. P. Webster, floodplain forest with butternut, sweeping (1, RWC). **Queens Co.**, Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 19–31.V.2010, 31.V–15.VI.2010, 15–29.VI.2010, 29.VI–12.VII.2010, R. Webster, C. MacKay, M. Laity, & R. Johns, old silver maple forest with green ash and seasonally flooded marsh, Lindgren funnel traps (18,

AFC, RWC); same locality data and forest type, 17–30.VIII.2011, C. Hughes & R. P. Webster, Lindgren funnel traps (2, NBM).

Collection and habitat data. Adults were collected by treading vegetation in a seepage area along a river margin, by sweeping vegetation in a floodplain forest, and from Lindgren funnel traps deployed in an old silver maple forest near a seasonally flooded marsh. Adults were collected during May, June, July, and August.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991; Majka and Johnson 2008).

***Ampedus nigricollis* (Herbst, 1801)**
http://species-id.net/wiki/Ampedus_nigricollis
Map 16

Material examined. New Brunswick, Queens Co., Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 21.VI-5.VII.2011, M. Roy & V. Webster, old silver maple forest with green ash and seasonally flooded marsh, Lindgren funnel traps in forest canopy (1, RWC). **Sunbury Co.**, Maugerville, Portobello Creek N.W.A., 45.8990°N, 66.4200°W, 28.VI.2004, R. P. Webster, silver maple swamp, under bark of silver maple (1, RWC).

Collection and habitat data. One specimen was found under bark of a silver maple during late June in a silver maple swamp, another was captured between late June and early July in a Lindgren funnel trap deployed in the canopy of a silver maple in a silver maple swamp. Majka and Johnson (2008) reported this species from rotten wood of poplar, a spruce stump, and reared from an apple log in Nova Scotia.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991; Majka and Johnson 2008).

***Ampedus oblessus* (Say, 1833)**
http://species-id.net/wikiAmpedus_oblessus
Map 17

Material examined. Additional New Brunswick records, Queens Co., Cranberry Lake P.N.A, 46.1125°N, 65.6075°W, 5–11.VI.2009, 18–25.VI.2009, R. Webster & M.-A. Giguère, old red oak forest, Lindgren funnel traps (3, AFC, RWC); same locality data and forest type, 13–25.V.2011, 25.V–7.VI.2011, 7–22.VI.2011, 29.VI–7.VII.2011, M. Roy & V. Webster, Lindgren traps in forest canopy (68, AFC, CNC, NBM, RWC); Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 1–3.VI.2011, 3–21.VI.2011, 21.VI–5.VII.2011, 5–19.VII.2011, M. Roy & V. Webster, old silver maple forest with green ash and seasonally flooded marsh, Lindgren funnel traps in forest canopy (13, AFC, NBM, RWC).

Collection and habitat data. Adults were captured during May, June, and July in Lindgren funnel traps in an old red oak stand and an old silver maple swamp.

Most (77 out of 81) individuals were captured in traps deployed in the forest canopy (mid crown).

Distribution in Canada and Alaska. AB, SK, MB, ON, QC, NB (Bousquet 1991). *Ampedus oblessus* (Say) was reported for New Brunswick in Bousquet (1991) but was not listed as a member of the fauna by Majka and Johnson (2008). The above record confirms the presence of this species for the province.

Ampedus protervus (LeConte, 1853)

http://species-id.net/wiki/Ampedus_protervus
Map 18

Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2200°N, 67.7231°W, 9.IX.2006, 6.V.2007, R. P. Webster, mature hardwood forest, under bark of fallen beech log (3, RWC); same locality but 4–12.VI.2008, 12–19.VI.2008, 19–27.VI.2008, R. P. Webster, mature hardwood forest, Lindgren funnel traps (3, AFC, RWC); same locality and habitat data, 14–20.V.2009, M.-A. Giguère & R. Webster, Lindgren funnel traps (2, RWC). **Queens Co.**, Cranberry Lake P.N.A, 46.1125°N, 65.6075°W, 12–21.V.2009, 1–10.VII.2009, R. Webster & M.-A. Giguère, old red oak forest, Lindgren funnel traps (2, AFC, RWC); same locality data and forest type, 25.V-7.VI.2011, 7–22.VI.2011, 29.VI–7.VII.2011, M. Roy & V. Webster, Lindgren funnel traps (3, AFC, NBM). **York Co.**, Charters Settlement, 45.8331°N, 66.7410°W, 27.VII.2005, R. P. Webster, mixed forest, on foliage of *Alnus incana* (1, RWC); 15 km W of Tracy off Rt. 645, 45.6848°N, 66.8821°W, 14–20.VII.2009, R. Webster & M.-A. Giguère, old red pine forest, Lindgren funnel trap (1, RWC).

Collection and habitat data. Adults of this species were captured in Lindgren funnel traps deployed in mature hardwood forests with American beech, sugar maple, and white ash, an old red oak forest, and an old red pine forest. Adults were also collected from under bark of a fallen beech log in mature hardwood forest and from alder (*Alnus incana* (L.) Moench) foliage in a mixed forest. Adults were collected during May, June, July, and September.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991).

Tribe Elaterini Leach, 1915

Elater abruptus Say, 1825

http://species-id.net/wiki/Elater_abruptus
Map 19

Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2200°N, 67.7231°W, 19–28.VII.2008, R. P. Webster, mature hardwood forest,

Lindgren funnel trap (1, RWC). **Queens Co.**, Cranberry Lake P.N.A., 46.1125°N, 65.6075°W, 28.VII–6.VIII.2009, R. Webster & M.-A. Giguère, old red oak forest, Lindgren funnel trap (1, AFC); same locality data and forest type, 20.VII-4.VIII.2011, 4–18.VIII.2011, M. Roy & V. Webster, Lindgren funnel traps in forest canopy (5, AFC, NBM, RWC); Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 19.VII-5.VIII.2011, 5–17.VII.2011, M. Roy & V. Webster, old silver maple forest and seasonally flooded marsh, Lindgren funnel traps in forest canopy (8, AFC, NBM, RWC).

Collection and habitat data. Adults were captured in Lindgren funnel traps in a mature hardwood forest with American beech, sugar maple, and white ash, in an old silver maple forest, and in an old red oak forest. Most adults were captured in traps deployed in the forest canopy. Adults were captured during July and August.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991).

***Sericus viridanus* (Say, 1825)**
http://species-id.net/wiki/Sericus_viridanus
Map 20

Material examined. New Brunswick, Carleton Co., Jackson Falls, Bell Forest, 46.2200°N, 67.7231°W, 12–29.VI.2008, R. P. Webster, mature hardwood forest, Lindgren funnel trap (1, RWC).

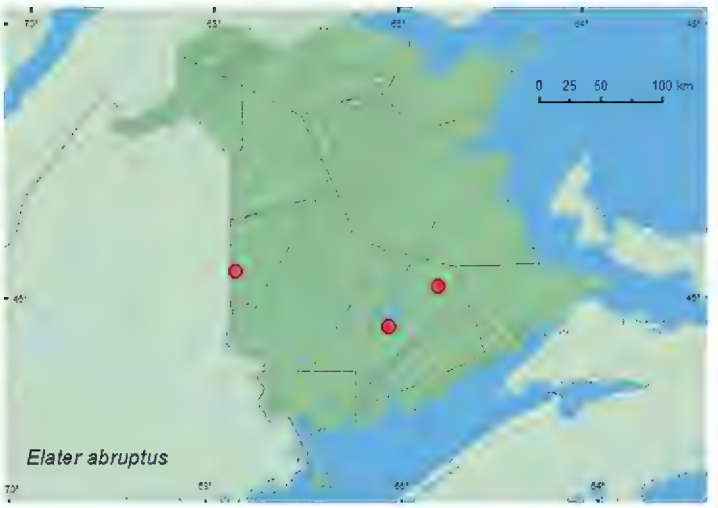
Collection and habitat data. The only specimen known from New Brunswick was captured during June in a Lindgren funnel trap deployed in a mature hardwood forest with American beech, sugar maple, and white ash.

Distribution in Canada and Alaska. ON, QC, **NB**, NS (Bousquet 1991).

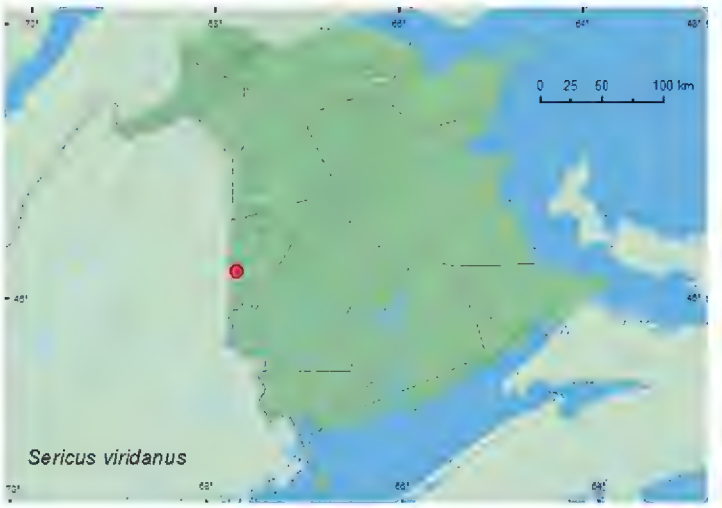
Tribe Megapenthini Gurjeva, 1973

***Megapenthes rogersi* Horn, 1871**
http://species-id.net/wiki/Megapenthes_rogersi
Map 21

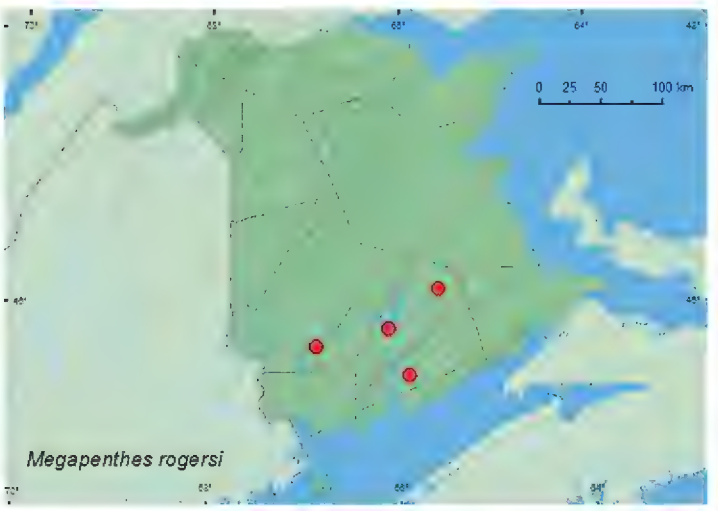
Material examined. Additional New Brunswick records, Kings Co., Hampton, Hampton Marsh, 45.4787°N, 65.9007°W, 13.VII.2005, R. P. Webster, floodplain forest, on foliage of silver maple (1, RWC). **Queens Co.**, Cranberry Lake P.N.A, 46.1125°N, 65.6075°W, 29.VI–7.VII.2011, 7–13.VII.2011, 13–20.VII.2011, 20.VII–4.VIII.2011, 4–18.VIII.2011, M. Roy & V. Webster, old red oak forest, Lindgren funnel traps in forest canopy (16, AFC, NBM, RWC); Grand Lake Meadows P.N.A., 45.8227°N, 66.1209°W, 5–19.VII.2011, M. Roy & V. Webster, old silver maple forest with green ash and seasonally flooded marsh, Lindgren funnel traps in forest canopy (2, NBM, RWC). **York Co.**, 15 km W of Tracy off Rt. 645, 45.6848°N, 66.8821°W,



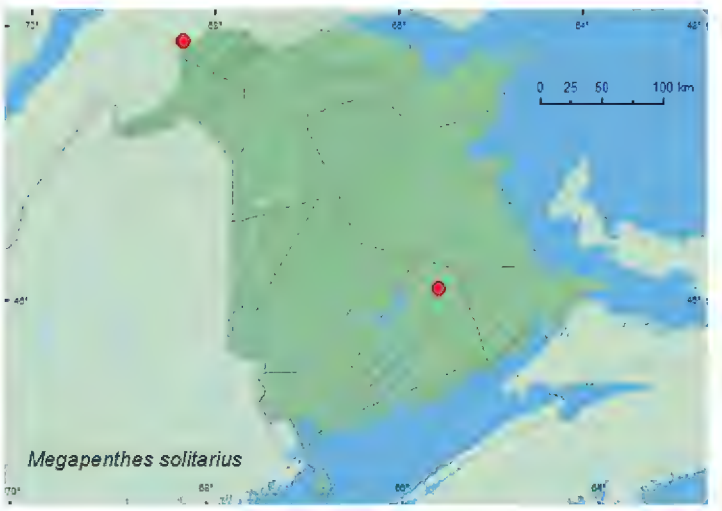
Map 19. Collection localities in New Brunswick, Canada of *Elater abruptus.*



Map 20. Collection localities in New Brunswick, Canada of *Sericus viridanus.*

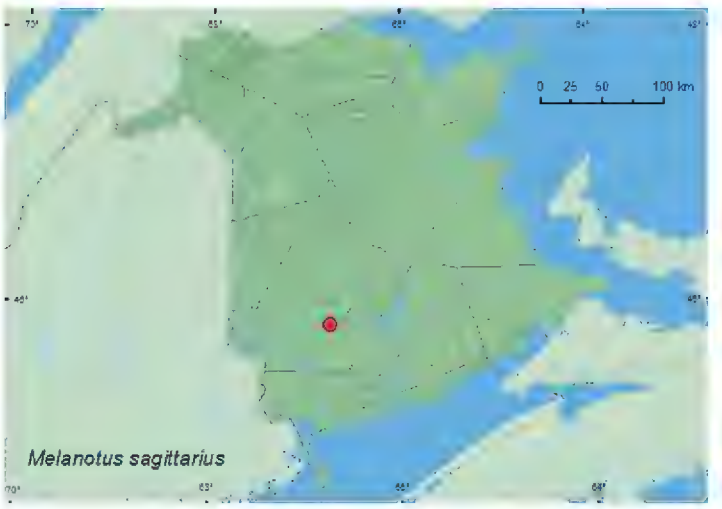


Map 21. Collection localities in New Brunswick, Canada of *Megapenthes rogersi.*



Map 22. Collection localities in New Brunswick, Canada of *Megapenthes solitarius.*

Map 23. Collection localities in New Brunswick, Canada of *Melanotus leonardi.*



Map 24. Collection localities in New Brunswick, Canada of *Melanotus sagittarius.*

30.VI–13.VII.2010, R. Webster & K. Burgess, old red pine forest, Lindgren funnel trap (in forest canopy) (1, RWC).

Collection and habitat data. One adult of this species was collected from foliage of silver maple near a river. All others (19 specimens) from New Brunswick

were captured in Lindgren funnel traps deployed in the canopy of an old red oak forest, an old silver maple forest, and an old red pine forest. No adults were captured in traps deployed near the forest floor at the above sites, indicating that this species may be most active in the forest canopy. Adults were captured during June, July, and August.

Distribution in Canada and Alaska. ON, QC, NB (Bousquet 1991).

Megapenthes solitarius* Fall, 1934*
http://species-id.net/wiki/Megapenthes_solitarius
Map 22

Material examined. New Brunswick, Queens Co., Cranberry Lake P.N.A, 46.1125°N, 65.6075°W, 21–27.V.2009, 5–11.VI.2009, R. Webster & M.-A. Giguère, old red oak forest, Lindgren funnel traps (3, NBM, RWC); same locality data and forest type, 13–25.V.2011, 25.V–7.VI.2011, 22–29.VI.2011, M. Roy & V. Webster, Lindgren funnel traps (3, RWC). **Restigouche, Co.**, Dionne Brook P.N.A., 47.9064°N, 68.3441°W, 30.V-15.VI.2011, 27.VI–14.VII.2011, M. Roy & V. Webster, old-growth northern hardwood forest, Lindgren funnel traps (3, NBM, CNC).

Collection and habitat data. In Alberta, two adults of *M. solitarius* were collected in mixed boreal forests; one from a window trap, the other was flying in a forest when captured (Fuller 2008). In New Brunswick, adults (9 specimens) of this rare species were captured in Lindgren funnel traps in an old red oak forest and an old-growth northern hardwood forest with sugar maple and yellow birch (*Betula alleghaniensis* Britt.). Adults were captured during May, June, and July.

Distribution in Canada and Alaska. AB, QC, **NB** (Bousquet 1991; Fuller 2008).

Tribe Melontini Candéze, 1859

Melanotus leonardi* (LeConte, 1853)*
http://species-id.net/wiki/Melanotus_leonardi
Map 23

Material examined. New Brunswick, Saint John Co., Saint John, Taylor's Island 12.VI.1999, R. P. Webster, sea beach, under seaweed (1, RWC).

Collection and habitat data. One adult was collected from under seaweed (drift material) on a sea beach during June along with many other Coleoptera species from other families.

Distribution in Canada and Alaska. MB, ON, QC, **NB** (Bousquet 1991).

Melanotus sagittarius* (LeConte, 1853)*
http://species-id.net/wiki/Melanotus_sagittarius
Map 24

Material examined. New Brunswick, York Co., Charters Settlement, 45.8395°N, 66.7391°W, 27.VI.2006, 20.VII.2006, 10.VI.2007, 25.VI.2009, R. P. Webster, mixed forest, u.v. light (6, NBM, RWC).

Collection and habitat data. Adults from New Brunswick were collected at an ultraviolet light in a mixed forest during June and July.

Distribution in Canada and Alaska. QC, **NB** (Bousquet 1991).

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